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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,377	03/01/2002	Qingsheng Zhu	279.407US1	3372
21186	7590	07/28/2005	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402-0938			ALTER, ALYSSA M	
			ART UNIT	PAPER NUMBER
			3762	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

5/18

<b>Office Action Summary</b>	<b>Application No.</b> 10/087,377	<b>Applicant(s)</b> ZHU ET AL.	
	<b>Examiner</b> Alyssa M. Alter	<b>Art Unit</b> 3762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 May 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-15, 17-29, 31 and 32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-25 is/are allowed.
- 6) ☒ Claim(s) 11, 12, 17, 18, 26, 29, 31 and 32 is/are rejected.
- 7) ☒ Claim(s) 13-15, 27 and 28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                         |                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                             | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 23, 2005 has been entered.

### ***Response to Arguments***

Applicant's arguments, see page 7, filed May 23, 2005, with respect to the objection of the drawings and 112 Rejections of claims 27-29 has been withdrawn. However, the examiner still maintains the 102 Rejections of claims 11-12, 17-18, 26, 29 and 31-32 as being anticipated by Salo (US Patent Publication 20030125774) now US Patent No. 6,892,095. Therefore, claims 11-12, 17-18, 26, 29 and 31-32 stand rejected under 35 U.S.C. 102(e) as being anticipated by Salo (US Patent Publication 20030125774) and claims 13-15 and 27-28 stand objected to for depending on a rejected base claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 11-12, 17-18, 26, 29 and 31-32 stand rejected under 35 U.S.C. 102(e) as being anticipated by Salo (US Patent Publication 20030125774) now US Patent No. 6,892,095.

The Applicant argues that the coronary vein is not the same as the coronary sinus and therefore Salo does not teach temperature change in the coronary sinus. However, Salo states on page 3, paragraph 34, "the great vein (i.e. the coronary sinus)". Thus Salo discloses the great vein, which is a coronary vein, is equivalent to the coronary sinus.

As to claims 11-12, Salo also states on page 2, paragraph 20, "a thermal sensor is located proximal to the distal end of the elongated body, the thermal sensor sensing an average coronary sinus blood temperature at a location distal to the coronary sinus ostium when the electrode(s) is/are positioned in a coronary vein". This average temperature can be updated by subsequent measurements as disclosed on page 2, paragraph 14, "the method, adaptively modifying the delivery of synchronized electrical signals can further include comparing a measured coronary vein blood temperature with a long-term average coronary vein temperature". Therefore, by comparing the measured temperature to a long-term average, there is inherently a difference in temperatures being sensed.

As to claims 17, 26 and 29, Salo discloses on page 4, paragraph 45, "the measured temperature can, in one application, be used to control the pacing rate in a rate adaptive pacemaker. For example, a long-term (on the order of hours) average temperature can be stored in the detector/energy delivery system 2. The long-term average temperature is measured predominantly from a resting state. The detector/energy delivery system 2 can measure and continually update the long-term average based on sample readings from the thermal sensor 9. Since the average temperature is continually updated with readings from the thermal sensor, this creates a temperature difference between the average and the subsequent measurements (see claims 11-12). Therefore, Salo teaches pacing in light of a temperature difference.

As to claims 18 and 31, Salo also discloses on page 2, paragraph 48, "the difference between the current temperature and a long-term average temperature could also be used as an activity indicator, since increased temperature with a relatively short rise time (on the order of seconds or minutes) would be indicative of increased activity. Indications of increased temperature can be combined with other indicators of activity, such as increased respiratory rate, to form a more accurate indicator of activity". Since, Salo discloses that an increase in activity results in an increase in temperature. Therefore, monitoring the temperature inherently acts as an indicator to the change in the functional status of the heart.

As to claim 32, the measured temperature is detected from the thermal sensor 9 and then compared to the long-term average, which modifies pacing parameters. Therefore, if sensor 9 detects a measured temperature that is higher or lower than the

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long-term average temperature, thus an increase or decrease, it would adjust pacing pulses. Thus a decrease in the measured temperature sensed by sensor 9 would inherently result in pacing pulses.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

***Allowable Subject Matter***

1. Claims 13-15 and 27-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
2. Claims 19-25 are allowed due to the withdrawal of the 103 Rejections on the grounds of Common Ownership.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alyssa M. Alter whose telephone number is (571) 272-4939. The examiner can normally be reached on M-F 9am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on (571) 272-4955. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alyssa M Alter  
Examiner  
Art Unit 3762



JEFFREY R. JASTRZAB  
PRIMARY EXAMINER

7/25/05